

- India's National Security Council Secretariat held joint exercise with **Regional Anti-Terrorist Structure (RATS) of SCO to restrict terrorism and extremism through the use of new technologies and internet.**
 - ⊕ **RATS (HQ: Tashkent, Uzbekistan)** is a permanent organ of SCO which serves to promote cooperation of member states against terrorism, separatism and extremism.
- **Misuse of technology and internet by Extremists**
 - ⊕ Non-state actors have disabled **critical infrastructures** by using **cyber-attacks, drones to smuggle narcotics, arms and ammunitions** across borders.
 - ⊕ **Dark web, AI-enabled tools and software** have been widely used to **create fake news, recruit members** through **online radicalization** etc.
 - ⊕ Non-state actors can **transfer money through virtual currencies** and **indulge in money laundering, drug trafficking** etc. E.g. 'Wannacry' ransomware attack in 2017.
- **Measures taken to address misuse of technology by extremists**
 - ⊕ **UNSC's Delhi Declaration** on countering the use of new and emerging technologies for terrorist purposes.
 - ⊕ **Financial Action Task Force** issued guidelines in 2018 to **regulate virtual assets**.
 - ⊕ Use of **Facial Recognition Technology** by **Indian Army** in counter-terrorism operations.
 - ⊕ Global Counterterrorism Forum has adopted **Berlin Memorandum on Good Practices to Counter Terrorist use of Unmanned Aerial Systems**.

About SCO

- Established in **2001**.
- **Two Permanent Bodies** - SCO Secretariat in Beijing, and Executive Committee of RATS in Tashkent.
- **SCO Members:** China, **India**, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan and Uzbekistan.

Logistics Ease Across Different States (LEADS) 2023 Report released by Ministry of Commerce & Industry

- LEADS focused on assessing **performance of logistics eco-system across States and Union Territories (UTs)**.
 - ⊕ **Three pillars of logistics Performance:** Logistics Infrastructure, Logistics Services and Operating and Regulatory Environment.
- LEADS was conceived on the lines of **Logistics Performance Index (LPI)** of World Bank in 2018
 - ⊕ LPI relies entirely on perception-based surveys, **LEADS incorporates both perception as well as objectivity.** ⊕ **India ranks 38th/139** countries in LPI 2023.

Key Findings:

- ⊕ **Highest improvement** recorded in **regulatory pillar**.
- ⊕ **Length of National Highways increased by approximately 48%** on back of sustained investment push by the government over the last decade.
- ⊕ **Total number of Container Freight Stations (CFS) increased by 18% and Inland Container Depots (ICDs) increased by 26%** growth between FY18 to FY22.
- ⊕ Apart from national logistics policy **21 States and 2 UTs have notified their Logistics Policies**.
- **Significance of LEADS for logistics sector**
 - ⊕ **Align State objective** with National priorities.
 - ⊕ **Encouraged competition among States** to improve the logistics sector.
 - ⊕ Empowers the State/UT Governments by providing **region specific insights for informed decision making**.

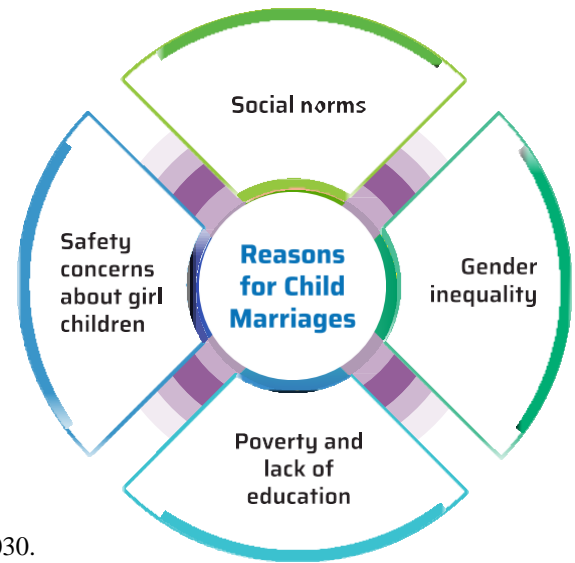
Groups / Categories	Achievers	Fast Movers	Aspirers
Coastal	Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu	Kerala, Maharashtra	Goa, Odisha, West Bengal
Landlocked	Haryana, Punjab, Telangana, Uttar Pradesh	Madhya Pradesh, Rajasthan, Uttarakhand	Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand
North-East	Assam, Sikkim, Tripura	Arunachal Pradesh, Nagaland	Manipur, Meghalaya, Mizoram
Union Territories	Chandigarh, Delhi	Andaman & Nicobar, Lakshadweep, Puducherry	Daman & Diu/ Dadra & Nagar Haveli, Jammu & Kashmir, Ladakh

LEADS 2023: Performance Snapshot
* States/ Union Territories within the performance categories are listed in alphabetical order

Study published in the Lancet Global Health highlights High prevalence of child marriages in India

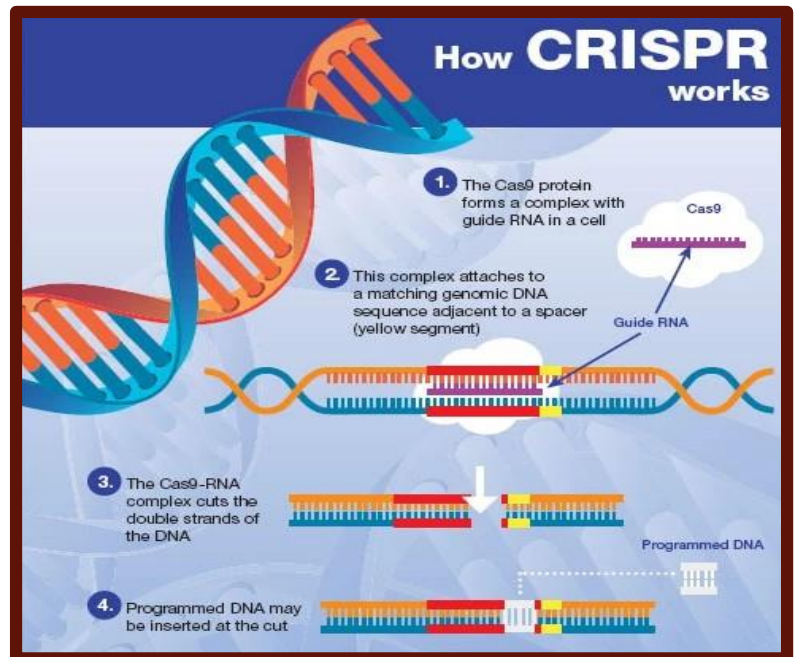
Key Findings

- ⊕ 1 in 5 girls and 1 in 6 boys are still victim of child marriage.
 - ⊕ Between 2019 and 2021, the magnitude of **reduction in child marriage in girls was smaller** than the reduction that occurred between 2006 and 2016.
 - ⊕ Prevalence of **girl child marriage decreased from 49 per cent in 1993 to 22 per cent in 2021.**
 - ⊕ **6 states/UTs saw an increase in prevalence** in child marriage in girls during 2016–2021.
- **Prohibition of Child Marriage Act, 2006** sets the legal age of marriage for men to 21 years and women to 18 years.
- ⊕ The **Prohibition of Child Marriage (Amendment) Bill, 2021** aims to **increase the minimum age of marriage of females to 21 years.**
- Child marriage is a **human rights violation and a recognised form of sexual and gender-based violence.**
- ⊕ It leads to a **range of poor health consequences that limit the ability of boys and girls** to reach their full potential.
- Sustainable Development Goal **target 5.3** aims to **end child marriage** in girls by 2030.
- Initiatives like **Beti Bachao Beti Padhao** aim to create awareness about gender equality and **discourage child marriage.**



U.S. approved First CRISPR based Gene Therapies to Treat Patients with Sickle Cell Disease (SCD)

- **Casgevy and Lyfgenia, first cell-based gene therapies,** is approved for **treatment of SCD** (inherited blood disorder that can be debilitating and lead to premature death) **in patients 12 years of age and older.**
- ⊕ **Casgevy** is also approved by **UK** to treat both **SCD and beta thalassemia** (inherited blood disorder that reduces production of hemoglobin).
 - ⊕ **Casgevy** therapy is utilizing **Clustered Regularly Interspaced Short Palindromic Repeats Associated protein 9 (CRISPR-Cas9)**, a type of genome editing technology.
- **CRISPR-Cas9** is used to **modify gene function,** to change genetic code or edit DNA at particular locations.
- ⊕ Earlier, **Nobel Prize for Chemistry, 2020** was awarded to Emmanuelle Charpentier and Jennifer A Doudna for development of **CRISPR-cas9** technique.
- **How CRISPR-cas9 works?**
- ⊕ It works as **cut and paste mechanism on DNA Strands.** Genetic codes that need to be changed are identified.
 - ⊕ **Cas9** protein is used as a **pair of molecular scissors to cut off a part from strand.**
 - ⊕ **Strand when broken has self-repairing tendency.** This way a damaged DNA strands can be removed and help human body to restore to healthy state.
- **Applications of CRISPR:** Edit genes in human embryo; **Change genetic codes of crops to improve crop resilience;** Creating new therapies for Cancer treatment etc.



Committee on Subordinate legislations of Rajya Sabha released 'Delay in framing of rules under various acts by the ministries' report

Key Findings

- ⊕ Despite the requirement to frame rules within six months of enactment of an Act, Committee noticed that **framing of subordinate legislation under various Acts are pending since years. For instance,**
 - ◆ **National Food Security Act, 2013:** Rule-making process had been stuck up. **Delhi, Rajasthan and Uttarakhand are yet to complete** the process.
 - ◆ **Petroleum and Natural Gas Regulatory Board Act, 2006** has been **granted ten extensions so far**, yet the process of framing of subordinate legislations is non- conclusive.
- Subordinate legislation is the **legislation made by an authority subordinate to legislature.**
- **Need for Subordinate legislation**
 - ⊕ **Legislatures have limitations of time**, thus, executive role in subordinate legislation is practical necessity.
 - ⊕ **Enables experts and technocrats to provide details within the framework of law**, particularly in new emerging areas of legislation. E.g. Data protection.
- **Issues with subordinate legislation**
 - ⊕ **Delay in framing** of subordinate legislations and **implementation of laws** hinders access to public services.
 - ⊕ **Lack of parliamentary discussion** on delegated legislation makes it **harder to ensure executive accountability.**
 - ⊕ Leave considerable discretion in hands of executive to frame of law which **may go against Separation of powers.**

About Committee on Subordinate Legislation, Rajya Sabha

- It is constituted under Rule 204 of **Rules of Procedure and Conduct of Business** in Council of States.
- **Mandate:** Scrutinize and report to the House whether the powers to make rules, regulations, bye-laws, schemes etc. conferred by Constitution or delegated by Parliament have been properly exercised.

Also in News

Kakrapar-4 nuclear reactor attains criticality

- **Criticality** refers to a **condition in nuclear reactor operations** where number of neutrons produced by fission reactions is sufficient to sustain a **self-sustaining chain reaction.**
- **Kakrapar (located in Gujarat) is the largest indigenous nuclear power reactor**, built by Nuclear Power Corporation of India Limited (NPCIL).
 - ⊕ NPCIL is a public sector undertaking of Department of Atomic Energy.
- **Kakrapar-4** is the second in the series of sixteen indigenous **Pressurised Heavy Water Reactors (PHWR)** of 700 MW each being set up in the country.

India, Oman adopt a vision document to expand ties

- A Joint Vision document titled '**A Partnership For the Future**' was adopted during the visit of the **Sultan of Oman.**
 - ⊕ It acknowledges the remarkable **synergy between Oman Vision 2040** and India's development objectives, under '**Amrit Kaal**'.
 - ⊕ Digital connectivity, medical tourism, maritime security, hospitality, space, agriculture, and food security are some of the areas that the vision document has focused on.
- **India-Oman relations**
 - ⊕ Oman is a crucial pillar of **India's West Asia policy.**
 - ◆ Oman is a **strategic partner of India (2008)** and an **important interlocutor** at Gulf Cooperation Council (GCC), Arab League and Indian Ocean Rim Association (IORA) fora.
 - ⊕ Oman has a **large Indian Diaspora** of 7 lakh people. ⊕ **Bilateral trade** more than **doubled** from USD 5.4 billion in 2020-21 to USD 12.3 billion in 2022-23.
 - ◆ India was the **second largest market for Oman's crude oil exports** for the year 2022 after China.
 - ⊕ In October 2022, India and Oman launched the **Rupay debit card in Oman.**
 - ⊕ Oman will play an important role in the proposed **India-Middle-East-Europe Connectivity Corridor (IMEEC)** infrastructure project.



Kashi Tamil Sangamam 2023

- The Prime Minister inaugurated the **Kashi Tamil Sangamam 2023 in Varanasi.**
- **About Kashi Tamil Sangamam**
 - ⊕ It aims to **celebrate, reaffirm and rediscover the age-old links between Tamil Nadu and Kashi.**
 - ⊕ It was held for the **first time in 2022** to further the spirit of '**Ek Bharat, Shrestha Bharat.**'
 - ⊕ **Ministry of Education will be the nodal agency** for this event with participation from the other ministries such as Ministries of Culture, Tourism, Railways, Textiles, etc.



Cassini mission

- According to a new study based on data from NASA's Cassini spacecraft, **Scientists found hydrogen cyanide in oceans of Saturn's icy moon Enceladus.**
 - ⊕ Hydrogen cyanide is a **key molecule in creation of life.**
- **Cassini mission** was launched in 1997.
 - ⊕ It was **designed to explore the Saturn system**, including its rings and moons, with a special focus on Titan.
 - ⊕ It carried **Huygens lander**, which landed on Saturn's largest moon, Titan.
 - ⊕ It was a **joint endeavor of NASA, ESA** (European Space Agency), and **Italian space agency (ASI).**



Bhashini, National Language Technology Mission

- Bhashini aims to **build a National Public Digital Platform for languages** to develop services and products for citizens **by leveraging the power of artificial intelligence** and other emerging technologies.
 - ⊕ It **enables all Indians easy access to the Internet and digital services** in their own language, and increase the content in Indian languages.
- Bhashini creates a unifying architecture, **underpinned by principles of open data and open source software**, to enable contributions from the research initiatives and the ecosystem.
- It was **launched in July 2022.**



Pink Bollworm

- Pink Bollworm (*Pectinophora Gossypiella*) is a pest that **primarily affects cotton crops.**
- The PBW larvae burrow into the developing fruits (bolls) of cotton plants, and the **damage affects both the weight and quality of the harvested bolls.**
- **Challenge:** Pink bollworm has developed a resistant to first generation transgenic Bt cotton (Bollgard cotton).
- **Control Measures:**
 - ⊕ **Maintenance of host free period during off-season** to ensure a pink worm free next season.
 - ⊕ **PB Knot technology disrupts the mating prospects of the pest.**



Goldilocks Zone (Habitable zone)

- New NASA study has discovered **17 ocean planets in habitable zones** of distant stars that could have **oceans of liquid water beneath their icy shells.**
- Goldilocks zone is the **area around a star where it is not too hot and not too cold for liquid water to exist** on the surface of surrounding planets.
 - ⊕ **Earth is in the Sun's Goldilocks zone.**
 - ⊕ **Rocky exoplanets found in habitable zones of their stars, are more likely targets for detecting liquid water on their surfaces.**



Akash Weapon System (AWS)

- During **Air Force Exercise Astrashakti-2023**, **India became the first country to demonstrate engaging four aerial targets simultaneously at 25 km range** using single firing unit.
 - ⊕ This test was **conducted using AWS. About**
- **Akash Weapon System**
 - ⊕ **Short Range Surface to Air Missile System** to protect vulnerable areas and points from air attacks.
 - ⊕ **Indigenously designed and developed by Defence Research and Development Organisation (DRDO).**
 - ⊕ **Simultaneously engage Multiple Targets in Group Mode or Autonomous Mode.**
 - ⊕ It has **built in Electronic Counter-Counter Measures (ECCM) features.**



Vijay Diwas

- **Vijay Diwas or Victory Day is commemorated on December 16**, marking the end of the 1971 Indo-Pak War and the **liberation of Bangladesh.**
 - ⊕ On 16 December 1971, around 93,000 **Pakistani soldiers surrendered** to the Indian Army in Dhaka.
 - ⊕ Before 1971, Bangladesh was a part of Pakistan, which was known as **'East Pakistan'.**
- This battle was fought **under the leadership of Field Marshal Manekshaw.**
- **Vijay Diwas on 16th December is different than the Kargil Vijay Diwas** as the latter is observed on July 26

Places in News



Malta (Capital: Valletta)

- Indian Navy extended help to MV Ruen, a ship of Malta hijacked in Arabian Sea.
- **Political features**
 - ⊕ **Island country located in central Mediterranean Sea.**
 - ⊕ Comprises **three main islands- Malta** (largest), **Gozo, Comino.**
 - ⊕ It is situated **east of Tunisia, south of island of Sicily (Italy), and north of Libya.**
 - ⊕ Malta became an **EU member in 2004.**
- **Geographical features**
 - ⊕ **Climate:** Mediterranean climate with hot, sunny summers and mild winters.
 - ⊕ **Highest Point:** Ta'Dmejrek.
 - ⊕ **Drainage:** Malta has no permanent rivers or lakes.

